"one obvious implication is that the criteria for investigation of these elderly patients go down when there is a reltively non-invasive test" (A Dixon, personal communication). Of the four patients in their study who had possible carcinomas, one patient had dementia and the three others died soon after the investigation. It would be interesting to know how the computed tomography scans had altered the management of these patients.

Sixty six elderly patients had this test in Cambridge in 1992. We perform about 1200 barium enemas in the Wolverhampton Hospitals each year. Last year we performed about 1150 computed tomography scans of the abdomen and pelvis (21% of all computed tomography scans). Our computed tomography workload has doubled in the past four years. A change of policy to computed tomography being the "initial imaging investigation of the colon in frail elderly patients" could be very hard for our department to cope with, as we agree with Dixon that the threshold for a referral for a non-invasive test would be lower than for a barium enema.

As the authors noted, computed tomography does not match a barium enema in detecting small colon tumours, which of course could well be responsible for possible gastrointestinal blood loss, the largest referral group in their study. Indeed it could be argued that if a patient is not fit for a barium enema, they are not fit enough for colorectal surgery.

We are longstanding admirers of Dixon's prolific work on computed tomography. Its application to the colon in frail elderly patients is entirely valid, but the problem is one of patient selection.

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1 Fink M, Freeman AH, Dixon AK, Coni NK. Computed tomography of the colon in elderly people. *BMJ* 1994;**308**: 1018. (16 April.)

Phytotherapeutic research

EDITOR,—The *BMJ* and other leading journals have recently drawn attention to the need for more clinical research into phytomedicines.[1,2] In the United Kingdom only $3·3 per head is spent on herbal remedies, but this figure amounts to $29 in Germany.[3] There, it might be hoped, phytotherapeutic research is pursued more actively—particularly by the manufacturers, who each year collectively have a turnover of some $300m on prescribed botanical monopreparations alone.[3]

A standard letter (on departmental letterhead) was written (in German) to all 189 firms that we identified as marketing herbal drugs in Germany. It asked (among other questions) for reprints of articles reporting controlled clinical trials on the company's product(s). Only 19 replies had reached us six weeks later. Four of these included at least one reprint. Twelve respondents regretted not knowing of clinical trials on their drug(s). In three cases we had written to a wrong address (one instance) or to a firm which did not market phytomedicines (two instances).

These data, though far from conclusive, do not give the impression that research is in proportion to either prevalence or financial turnover of herbal remedies. As there can be little doubt about the need for research on the effectiveness and safety of phytomedicines,[1-3] the present situation ought to be changed. I suggest that all reputable manufacturers found a "club" in which each member contributes a minimum, say 1%, of its profit to an international trust or charity which in turn will commission the independent, rigorous research that is so urgently needed. To continue ignoring the need for proper investigation of phytomedicine seems to be against the long term interest of patients, doctors, therapists, and indeed manufacturers.

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1 Atherton DJ. Towards the safer use of traditional remedies. *BMJ* 1994;**308**:673-4.
2 Vanhaelen M, Vanhaelen R, But P, Vanherweghem JL. Identification of aristolochie acid in Chinese herbs. *Lancet* 1994;**343**: 489.
3 De Smet PAGM. An introduction to herbal pharmacoepidemiology. *J Ethnopharmacol* 1993;**38**:197-208.

Cancer and nuclear work

EDITOR,—The "Headline" entitled "Study of cancer link with nuclear work abandoned" is misleading.[1] The Medical Research Council is still investigating the association, found by Gardner *et al*,[2] between a man's occupational radiation exposure at Sellafield and his children's subsequent risk of leukaemia or lymphoma. Studies are continuing in Southampton, where the original work was conducted, and elsewhere. Only one piece of work has been stopped and that is the extension of the case-control study by Gardner *et al*, the sole reason being that a similar study has recently been conducted and published by the Health and Safety Executive.[3] Replicating their work is not a sensible use of resources.

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1 Headlines. *BMJ* 1994;**308**:1120.
2 Gardner MJ, Hall AJ, Snee MP, Downes S, Powell CA, Terrell JD. Results of case-control study of leukaemia and lymphoma among young people near Sellafield nuclear plant in West Cumbria. *BMJ* 1990;**300**:423-9.
3 Health and Safety Executive. *HSE investigation of leukaemias and other cancers in the children of male workers at Sellafield.* Sudbury: HSE Books, 1993.

Shift work

EDITOR,—As Ian H Robinson suggests in his review of the BBC2 *Horizon* programme "Against the Clock," we should be seriously concerned about the possibility of junior doctors who work 36 to 48 hour shifts making mistakes through fatigue.[1] Studies that have been performed on this group indicate that, even after shifts of only 31 hours, performance is slower and more erratic,[2] and the general view is that high performance is difficult to sustain at the end of a long shift coincident with night. In many other circumstances in which reliable performance is required there is reluctance to allow shifts as long as 12 or even eight hours.[3]

One of the ways to ameliorate the difficulties of working at night, as Dr Martin Moore-Ede emphasised in the programme, is to promote adjustment of the body clock to the altered sleep-activity regimen.[4] This can be achieved by timed exposure to light and darkness, and in the absence of such help from the natural environment light visors and strong sunglasses act as artifical substitutes. Some issues must, however, be considered before such a protocol can be regarded as a panacea.

Firstly, bright light during night work needs careful installation to avoid causing eyestrain and glare from reflections in video display units. This point was covered in the programme, but a second, related one was not. Shift schedules in the United States often rotate slowly (more than one week before the shift changes), whereas in Europe a much more rapid rotation (one or two days before changing) is commonly practised. In rapid rotations it is undesirable to attempt to adjust the body clock; bright light can still be useful, but to promote alertness, and this might change the intensity and timing that are most suitable.

Such measures should enable the rest of society to sleep more safely at night, but their long term effects on night workers are unknown. Thus, while increased gastrointestinal and cardiovascular morbidity is associated with night work,[3] it is not clear that promoting adjustment of the body clock would benefit the workers' health in the long term. What if it is a shifting body clock rather than an unadjusted one that gives rise to the problems?

Modern society is indeed a 24 hour society. There is a cost to this, both to workers and to those who suffer as a result of any errors made. Moore-Ede has described a solution to the problem of night work, but, as Robinson states,[1] it is by no means perfect, or universal.

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1 Robertson IH. Sleep of death. *BMJ* 1994;**308**:1168. (30 April.)
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4 Czeisler CA, Johnson MP, Duffy JF, Brown EN, Ronda JM, Kronauer RE. Exposure to bright light and darkness to treat physiologic maladaptation to night work. *N Engl J Med* 1990;**322**:1253-9.

BMA's annual report for 1993-4

EDITOR,—I was interested to see in the annual report of the British Medical Association for 1993-4 that the association generated a surplus of £3·6m, is expecting a similar surplus for 1994, and has an overall surplus of £40·12m—the market value of its investments (pp 62-3).[1] There seems to be a lack of a clear strategy on the use of these funds, except perhaps for speculation on the stock markets (p 41). In the absence of a coherent strategy I suggest, among other things, a policy of increasing the membership of the BMA by subsidising subscription fees rather than increasing them (p 41). A membership campaign emphasising the services offered and the reduction of fees would, with increased membership, give more political leverage to the BMA and in the long run might generate a further surplus—if that is indeed a strategy of the association.

Also interesting are the facts that 43% of the BMA's expenditure is on staff costs (£17·7m out of £41m); there was a 9·5% increase in staff employed by the BMA in 1992-3, from 618 to 677; and there was a corresponding increase of 13·9% in salaries and wages during the same period, from £12·66m to £14·4m.

I am cautious in interpreting such statistics. But statistics such as these have been an important ploy in the criticism of the government's increase in expenditure on management. Should the BMA also be cautious in its interpretation of such statistics?

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1 BMA. *Annual report 1993-94.* London: BMA, 1994.

**Michael Bown, BMA deputy secretary for finance, responds below.

In these recessionary times it is ironic that there is a risk of being defensive over the association's £3·6m surplus for 1993, particularly when many societies and associations are struggling with